

**Assessment of Children who are Deaf or Hard of Hearing**



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**Psychologists Responsibilities**

- Possess knowledge of psychological and sociological aspects of deafness.
- Possess knowledge of linguistic factors and performance implications of deafness.
- Use assessment instruments appropriate for the deaf.
- Assess intellectual, psychosocial, adaptive behavior, and social/emotional skills.
- Provide group, individual, and family counseling.
- Communicate with students in their primary language.

Adapted from Programs for Deaf and Hard of Hearing Students (CDE, 2000).




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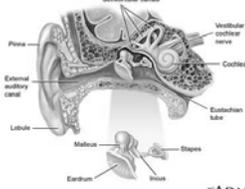
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**Pre-Assessment Considerations**

- Understand the Hearing Loss
  - Type
    - Conductive (outer and/or middle ear problems)
      - Special testing accommodations may not be needed.
      - Occurs when sound is not conducted efficiently through the outer ear canal to the eardrum and the tiny bones, or ossicles, of the middle ear.
      - Usually involves a reduction in sound level, or the ability to hear faint sounds.
      - Can often be medically or surgically corrected.



Source: American Speech-Language-Hearing Association




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**Pre-Assessment Considerations**

- Understand the Hearing Loss
  - Examples of conditions that may cause a conductive hearing loss include:
    - Conditions associated with middle ear pathology such as fluid in the middle ear from colds, allergies (serous otitis media), poor eustachian tube function, ear infection (otitis media), perforated eardrum, benign tumors
    - Impacted earwax (cerumen)
    - Infection in the ear canal (external otitis)
    - Presence of a foreign body
    - Absence or malformation of the outer ear, ear canal, or middle ear

Source: American Speech-Language-Hearing Association




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**Pre-Assessment Considerations**



- Understand the Hearing Loss
  - Type
    - Sensorineural (inner ear or auditory nerve problems)
      - May require non-vocal instructions.
      - Occurs when there is damage to the inner ear (cochlea) or to the nerve pathways from the inner ear (retrocochlear) to the brain.
      - Cannot be medically or surgically corrected. It is a permanent loss.
      - Not only involves a reduction in sound level, or ability to hear faint sounds, but also affects speech understanding, or ability to hear clearly.

Source: American Speech-Language-Hearing Association




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**Pre-Assessment Considerations**

- Understand the Hearing Loss
  - Sensorineural hearing loss can be caused by
    - diseases
    - birth injury
    - drugs that are toxic to the auditory system
    - genetic syndromes.
    - May also occur as a result of noise exposure, viruses, head trauma, aging, and tumors.

Source: American Speech-Language-Hearing Association




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**Pre-Assessment Considerations**

- Understand the Hearing Loss
  - Type
    - Mixed (both conductive and sensorineural)
      - May require non-vocal instructions.
      - There may be damage in the outer or middle ear and in the inner ear (cochlea) or auditory nerve.

Source: American Speech-Language-Hearing Association



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**Pre-Assessment Considerations**

- Understand the Hearing Loss
  - Degree (unaided)
    - Normal or no impairment (0-20 dB loss)
    - Mild (20-40 dB loss)
      - Special testing accommodations typically not needed.
      - Speech typically intelligible.
    - Moderate (40-60 dB loss)
      - Depending upon communication abilities special testing accommodations may not be needed.
      - Likely to have intelligible speech.
    - Severe (60-80 dB loss)
      - Special testing accommodations typically required.
    - Profound (80+ dB loss)
      - Special testing accommodations typically required.



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**Pre-Assessment Considerations**

- Understand the Hearing Loss
  - *An aided loss of 50 dB will likely require non-vocal cues during assessment, while an unaided 50 dB loss may have an aided loss in the normal range.*



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**Pre-Assessment Considerations**

- Other descriptors associated with hearing loss are:
  - **Bilateral versus unilateral.**
    - Bilateral means both ears are affected.
    - Unilateral means only one ear is affected.
  - **Symmetrical versus asymmetrical.**
    - Symmetrical means the degree and configuration of hearing loss are the same in each ear.
    - Asymmetrical means the degree and/or configuration of the loss is different for each ear.

Source: American Speech-Language-Hearing Association




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**Pre-Assessment Considerations**

- Other descriptors associated with hearing loss are:
  - **Progressive versus sudden hearing loss.**
    - Progressive becomes increasingly worse over time.
    - Sudden has an acute or rapid onset and therefore occurs quickly, requiring immediate medical attention to determine its cause and treatment.
  - **Fluctuating versus stable hearing loss.**
    - Fluctuating hearing loss is typically a symptom of conductive hearing loss caused by ear infection and middle ear fluid, but also presents in other conditions such as Meniere's disease.

Source: American Speech-Language-Hearing Association




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**Pre-Assessment Considerations**

- Etiology
  - May suggest the presence of other handicaps (e.g., birth trauma and high fever are also associated with learning disabilities).
- Age at Onset
  - Before 2 years associated with a greater probability of language delay.
- Age at Identification/Intervention (e.g., use of aids)
  - Earlier associated with a lower probability of language delay.
- Hearing status of the parent(s)
  - Hearing impaired children of deaf parents are more likely to have a severe to profound hearing loss, yet at the same time they are more likely to have established a communication system.

Source: American Speech-Language-Hearing Association




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**Pre-Assessment Considerations**

- Determine student's preferred mode of communication (i.e., ASL, Manual English, Oral English, Simultaneous) and the need for an interpreter.
  - Ensure interpreters are trained!!!
    - Have accurate understanding of questions/directions.
    - Don't give away test answers.
- Tests given by persons without experience working with deaf students are more likely to be invalid.
- Budget more time for these assessments as when done well they are much more involved evaluations.
- Make sure vision has been assessed and if required glasses are worn!



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**School Record Review**

- Vision and hearing screening results.
- School attendance history
- Prior assessment data
- Academic performance
- Family information



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**Observations**

- Will help in determining
  - needed test accommodations.
  - typical behavior/performance.
  - learning strengths and weaknesses.



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### Communication Issues

- Testing conducted in student's preferred mode of communication.
- Sit within 2 to 3 feet
- Provide a well lit room that avoids glare.
- Minimize visual distractions and background noise.
- Use distinct speech, but don't exaggerate lip movements.
- Remove obstructions to the examiner's face.
- Before beginning assessment ensure assistive listening devices are working and used.



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### Assessment Tools

- Modify existing measures.
- Employ non-verbal tests.
- Use tests designed for hearing impaired.
- Unless tests are known to be valid for this population, always consider the possibility that scores may be underestimates.



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### Report Language

- In analyzing these results it needs to be kept in mind that this test was standardized on (**describe standardization sample, e.g., monolingual, hearing, English-speaking children**). Thus, for the purposes of special education placement, the scores are psychometrically invalid. Hearing impaired children were not included in the test's standardization samples. Thus, test scores do not necessarily indicate the presence of learning difficulties. However, they do give information regarding **Name's** present level of functioning in the English-speaking hearing classroom. These scores can be used for baseline and follow-up measures to assess progress relative to hearing peers.



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**Intelligence Testing**

- Wechsler Performance Scales
- Raven Coloured Progressive Matrices
- Kaufman Assessment Battery for Children
- Test of Nonverbal Intelligence
- Pictorial Test of Intelligence
- Columbia Mental Maturity Scale
- Verbal tests are almost always inappropriate for use as a measure of IQ. Scores on these measures are typically a reflection of the language delays that accompany hearing impairments.



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**Language Testing**

- Consult with LSH specialist
- Wechsler Verbal Scales
  - Not as a measure of IQ, but as a way to compare verbal abilities with hearing peers.
- Peabody Picture Vocabulary Test
  - Translation difficulties
- Expressive One Word Picture Vocabulary Test



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**Social & Emotional**

- Reading ability must be considered before giving self report items.
- Use caution when interpreting
  - Unusual responses may be due to cultural and linguistic differences.
- Meadow-Kendall Social-Emotional Assessment Inventory for Deaf Students
- Piers-Harris Children's Self Concept Scale.
- Tennessee Self-Concept Scale



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**Behavior**

- Less dependent upon language. Thus, behavioral measures are typically appropriate.
- Child Behavior Checklist
- Vineland Adaptive Behavior Scale



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**Resources**

- Programs for Deaf and Hard of Hearing Students: Guidelines for Quality Standards (CDE, 2000).
- Northern California Assessment Center for the Deaf and Hard of Hearing
  - California School for the Deaf, Pupil Personnel Services Division, 39350 Gallaudet Drive, Fremont, CA 94538 (510) 794-3707 voice/TTY (510) 794-2577 FAX
  - The Northern California Assessment Center for the Deaf and Hard of Hearing provides free, comprehensive diagnosis and prescriptive evaluations of Deaf and Hard of Hearing students from birth through age 21 years who reside in Northern California. Referrals are made through the LEA for such reasons as program placement concerns, lack of student progress, behavioral problems, determination of most appropriate mode of communication, specific educational/learning problems or requests of educational recommendations.



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**Resources**

- ASHA
  - <http://www.asha.org/public/hearing/disorders/types.htm>
  - <http://www.asha.org/public/hearing/disorders/>
- Medline Plus
  - <http://www.nlm.nih.gov/medlineplus/ency/article/003044.htm>
  - <http://www.nlm.nih.gov/medlineplus/tutorials/hearingloss/html/index.htm>
- NICHCY Disability Fact Sheet
  - <http://www.nichcy.org/pubs/factshe/fs3txt.htm>



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